



INSTRUCTIONS

This manual contains important
warnings and information.
READ AND RETAIN FOR REFERENCE

30:1 RATIO

President® Sprayer

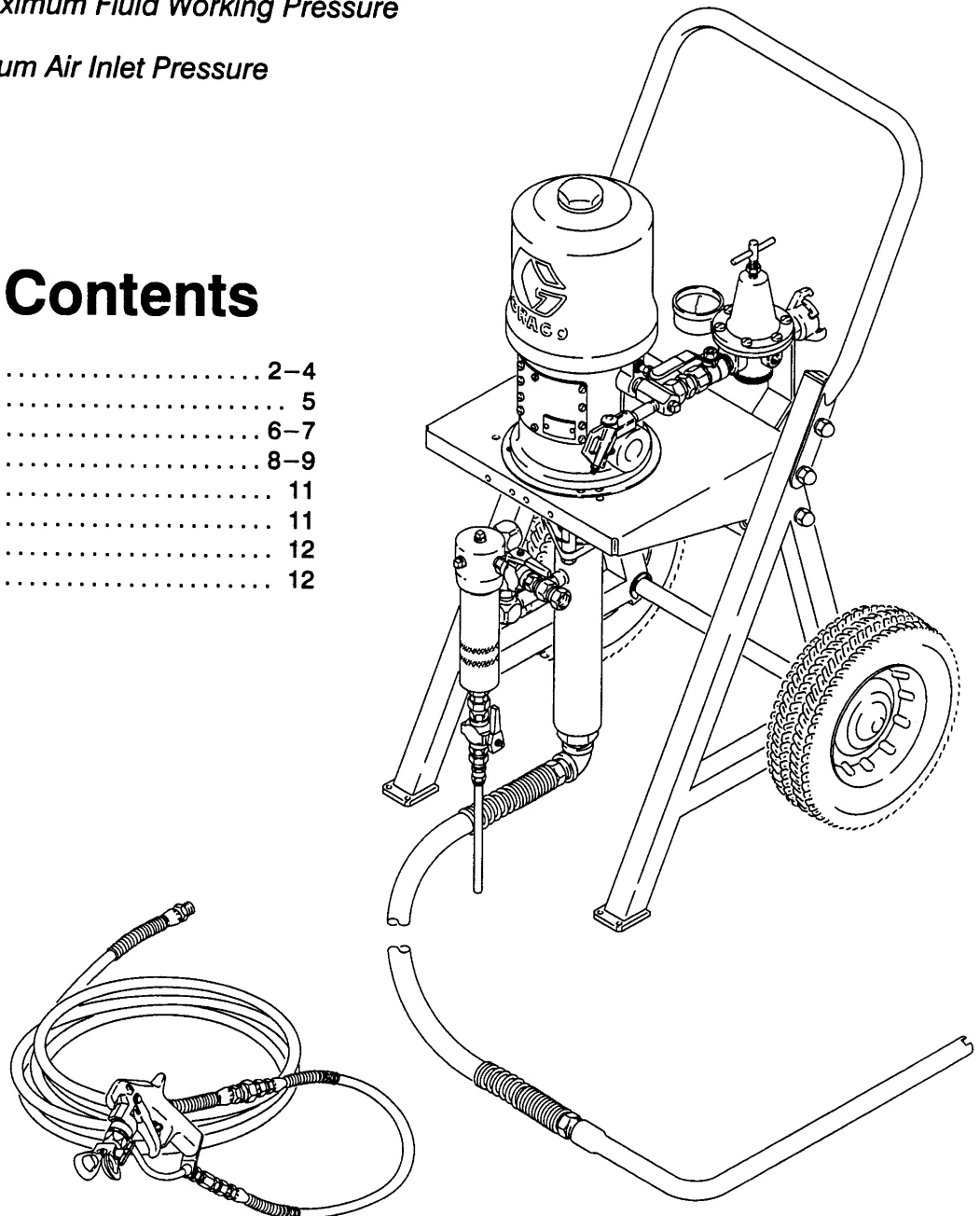
Part No. 965—272

3000 psi (210 bar) Maximum Fluid Working Pressure

100 psi (7 bar) Maximum Air Inlet Pressure

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WARNINGS

**High Pressure Spray Can Cause Serious Injury. For Professional Use Only.
Observe All Warnings. Read and understand all instruction manuals before operating equipment.**

FLUID INJECTION HAZARD

General Safety

This equipment generates very high fluid pressure. Spray from the spray gun, leaks or ruptured components can inject fluid through your skin and into your body and cause extremely serious bodily injury, including the need for amputation. Also, fluid injected or splashed into the eyes or on the skin can cause serious damage.

Never point the spray gun at anyone or at any part of the body. Never put hand or fingers over the spray tip. Never try to “blow back” paint; this is **not** an air spray system.

Always have the tip guard in place on the spray gun when spraying.

Always follow the **Pressure Relief Procedure**, right, before cleaning or removing the spray tip or servicing any system equipment.

Never try to stop or deflect leaks with your hand or body.

Be sure equipment safety devices are operating properly before each use.

Medical Alert – Airless Spray Wounds

If any fluid appears to penetrate your skin, get **emergency medical care at once. Do not treat as a simple cut.** Tell the doctor exactly what fluid was injected.

NOTE TO PHYSICIAN: Injection into the skin is a traumatic injury. **It is important to treat the injury surgically as soon as possible.** Do not delay treatment to research toxicity. Toxicity is a concern with some exotic coatings injected directly into the blood stream. Consultation with a plastic surgeon or reconstructive hand surgeon may be advisable.

Spray Gun Safety Devices

Be sure all spray gun safety devices are operating properly before each use. Do not remove or modify any part of the spray gun; this can cause a malfunction and result in serious bodily injury.

Safety Latch

Whenever you stop spraying, even for a moment, always set the spray gun safety latch in the closed or “safe” position, making the spray gun inoperative. Failure to set the safety latch can result in accidental triggering of the spray gun.

Trigger Guard

Never operate the spray gun with the trigger guard removed. This guard helps prevent the gun from triggering accidentally if it is dropped or bumped.

Diffuser

The spray gun diffuser breaks up spray and reduces the risk of fluid injection when the tip is not installed. Check the diffuser operation regularly. Follow the **Pressure Relief Procedure**, below, then remove the spray tip. Aim the spray gun into a grounded metal pail, holding the spray gun firmly to the pail. Using the lowest possible pressure, trigger the spray gun. If the fluid emitted is not diffused into an irregular stream, replace the diffuser immediately.

Tip Guard

Always have the tip guard in place on the spray gun while spraying. The tip guard alerts you to the fluid injection hazard and helps reduce, **but does not prevent**, the risk of accidentally placing your fingers or any part of your body close to the spray tip.

Spray Tip Safety

Use extreme caution when cleaning or changing spray tips. If the spray tip clogs while spraying, engage the spray gun safety latch immediately. Always follow the **Pressure Relief Procedure** and then remove the spray tip to clean it.

Never wipe off build-up around the spray tip until pressure is fully relieved and the spray gun safety latch is engaged.

Pressure Relief Procedure

To reduce the risk of serious bodily injury, including fluid injection, splashing in the eyes or on the skin, or injury from moving parts, always follow this procedure whenever you shut off the pump, when checking or servicing any part of the spray system, when installing, cleaning or changing spray tips, and whenever you stop spraying.

1. Engage the spray gun safety latch.
2. Shut off the air to the pump.
3. Close the bleed-type master air valve (supplied in your system).
4. Disengage the spray gun safety latch.
5. Hold a metal part of the spray gun firmly to the side of a grounded metal pail, and trigger the spray gun to relieve pressure.
6. Engage the spray gun safety latch.
7. Open the drain valve (supplied in your system), having a container ready to catch the drainage.
8. Leave the drain valve open until you are ready to spray again.

If you suspect that the spray tip or hose is completely clogged, or that pressure has not been fully relieved after following the steps above, **very slowly** loosen the tip guard retaining nut or hose end coupling and relieve pressure gradually, then loosen completely. Now clear the tip or hose.

EQUIPMENT MISUSE HAZARD

General Safety

Any misuse of the spray equipment or accessories, such as overpressurizing, modifying parts, using incompatible chemicals and fluids, or using worn or damaged parts, can cause them to rupture and result in fluid injection, splashing in the eyes or on the skin, or other serious bodily injury, or fire, explosion or property damage.

Never alter or modify any part of this equipment; doing so could cause it to malfunction.

Check all spray equipment regularly and repair or replace worn or damaged parts immediately.

Always wear protective eyewear, gloves, clothing and respirator as recommended by the fluid and solvent manufacturer.

System Pressure

The 30:1 ratio President pump can develop 3000 psi (210 bar) *Maximum Working Pressure* at 100 psi (7 bar) *Maximum Incoming Air Pressure*. Never exceed 100 psi (7 bar) air pressure to the pump.

Be sure that all spray equipment and accessories are rated to withstand the maximum working pressure of the pump. Do not exceed the maximum working pressure of any component or accessory used in the system.

Fluid Compatibility

Be sure that all fluids and solvents used are chemically compatible with the wetted parts shown in the **Technical Data** on page 11 or in the separate component manuals. Always read the manufacturer's literature before using fluid or solvent in this pump.

FIRE OR EXPLOSION HAZARD

Static electricity is created by the flow of fluid through the pump and hose. If every part of the spray equipment is not properly grounded, sparking may occur, and the system may become hazardous. Sparking may also occur when plugging in or unplugging a power supply cord. Sparks can ignite fumes from solvents and the fluid being sprayed, dust particles and other flammable substances, whether you are spraying indoors or outdoors, and can cause a fire or explosion and serious bodily injury and property damage. Do not plug in or unplug any power supply cords in the spray area when there is any chance of igniting fumes still in the air.

If you experience any static sparking or even a slight shock while using this equipment, **stop spraying immediately**. Check the entire system for proper grounding. Do not use the system again until the problem has been identified and corrected.

Grounding

To reduce the risk of static sparking, ground the pump, object being sprayed, and all other spray equipment used or located in the spray area. Check your local electrical code for detailed grounding instructions for your area and type of equipment. Be sure to ground all of this spray equipment:

1. *Pump*: use a ground wire and clamp as shown in Fig. 1.
2. *Air hoses*: use only grounded air hoses.
3. *Fluid hoses*: use only grounded fluid hoses.
4. *Air compressor*: follow manufacturer's recommendations.
5. *Spray gun*: grounding is obtained through connection to a properly grounded fluid hose and pump.
6. *Fluid supply container*: according to your local code.
7. *Object being sprayed*: according to your local code.

8. *All solvent pails used when flushing*, according to local code. Use only metal pails, which are conductive, placed on a grounded surface. Do not place the pail on a non-conductive surface, such as paper or cardboard, which interrupts the grounding continuity.
9. *To maintain grounding continuity when flushing or relieving pressure*, always hold a metal part of the spray gun firmly to the side of a grounded *metal* pail, then trigger the spray gun.

To ground the pump:

To ground the pump, loosen the grounding lug locknut (W) and washer (X). Insert one end of a 1.5 mm² (12 ga) minimum ground wire (Y) into the slot in lug (Z) and tighten the locknut securely. See Fig. 1. Connect the other end of the ground wire to a true earth ground.

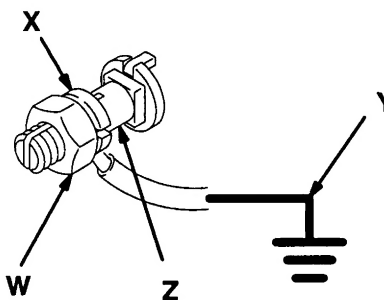


Fig. 1

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Flushing Safety

Before flushing, be sure the entire system and flushing pails are properly grounded. Refer to **Grounding**, at the left. Follow the **Pressure Relief Procedure** on page 2, and remove the spray tip from the spray gun. Always use the lowest possible fluid pressure, and maintain firm metal-to-metal contact between the spray gun and the pail during flushing to reduce the risk of fluid injection injury, static sparking and splashing.

HOSE SAFETY

High pressure fluid in the hoses can be very dangerous. If the hose develops a leak, split or rupture due to any kind of wear, damage or misuse, the high pressure spray emitted from it can cause a fluid injection injury or other serious bodily injury or property damage.

All fluid hoses must have spring guards on both ends!

The spring guards help protect the hose from kinks or bends at or close to the coupling which can result in hose rupture.

Tighten all fluid connections securely before each use. High pressure fluid can dislodge a loose coupling or allow high pressure spray to be emitted from the coupling.

Never use a damaged hose. Before each use, check the entire hose for cuts, leaks, abrasion, bulging cover, or damage or movement of the hose couplings. If any of these conditions exist, replace the hose immediately. Do not try to recouple high pressure hose or mend it with tape or any other device. A repaired hose cannot safely contain the high pressure fluid.

Handle and route hoses carefully. Do not pull on hoses to move equipment. Do not use fluids or solvents which are not compatible with the inner tube and cover of the hose. Do not expose Graco hoses to temperatures above 180° F (82° C) or below -40° F (-40° C).

Hose Grounding Continuity

Proper hose grounding continuity is essential to maintaining a grounded spray system. Check the electrical resistance of your air and fluid hoses at least once a week. If your hose does not have a tag on it which specifies the maximum electrical resistance, contact the hose supplier or manufacturer for the maximum resistance limits. Use a resistance meter in the appropriate range for your hose to check the resistance. If the resistance exceeds the recommended limits, replace it immediately. An ungrounded or poorly grounded hose can make your system hazardous. Also, read **FIRE OR EXPLOSION HAZARD**, on page 3.

MOVING PARTS HAZARD

The piston in the air motor, located behind the air motor plates, moves when air is supplied to the motor. Moving parts can pinch or amputate your fingers or other body parts. Therefore, never operate the pump with the air motor plates removed. Keep clear of moving parts when starting or operating the pump. Before checking or servicing the pump or any system component, follow the **Pressure Relief Procedure** on page 2, to prevent the pump from starting accidentally.

IMPORTANT

United States Government safety standards have been adopted under the Occupational Safety and Health Act. These standards – particularly the General Standards, Part 1910, and the Construction Standards, Part 1926 – should be consulted.

TERMS

WARNING Alerts user to avoid or correct conditions that could cause bodily harm.

CAUTION Alerts user to avoid or correct conditions that could cause damage to or destruction of equipment.

NOTE Identifies essential procedures or helpful information.

Setup

Be sure that all operators read and understand this entire manual and the separate manuals supplied with components and accessories before using this equipment.

Reference numbers and letters in parentheses refer to the figures and the parts list on pages 8–9.

Accessories mentioned are available from your Graco distributor (see page 11). If you supply your own accessories, be sure they are adequately sized to meet your system's requirements.

For assistance in designing a system to meet your particular needs, contact your Graco representative or Graco Technical Assistance (see back page).

System Accessories

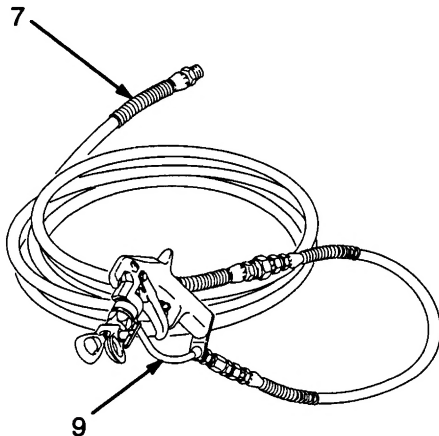
Install an air line filter in the main air line, to remove harmful dirt and moisture from the compressed air supply. To provide automatic lubrication of the air motor, install an air line lubricator downstream from the bleed-type master air valve (31).

WARNING

The bleed-type master air valve (31) and the fluid drain valve (37) are **supplied** with your pump, to help reduce the risk of serious bodily injury including fluid injection, splashing in the eyes or on the skin, or injury from moving parts if you are adjusting or repairing the pump.

The *bleed-type master air valve* relieves air trapped between this valve and the pump after the air is shut off. Trapped air can cause the pump to cycle unexpectedly. The valve is located downstream from the air regulator.

The *fluid drain valve* assists in relieving fluid pressure in the displacement pump, hose, and gun; triggering the gun to relieve pressure may not be sufficient.



Hose and Gun Connections

Refer to Fig. 2. Connect one end of the fluid hose (7) to the filter outlet swivel (29) and the other to the fluid inlet of the gun (9).

Close the bleed-type master air valve (31) and the air regulator (32). Connect a grounded air hose to the air line fitting (17).

Grounding

WARNING

Before operating the pump, ground the system as explained under **FIRE OR EXPLOSION HAZARD** and **Grounding** on page 3.

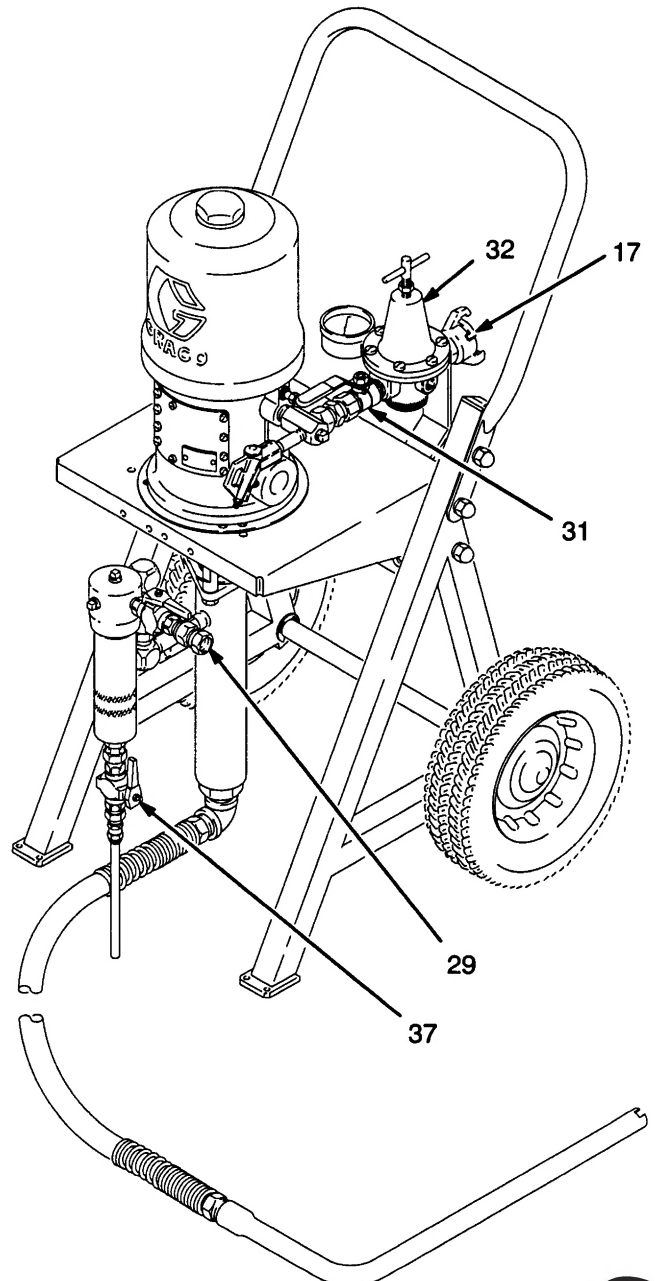


Fig. 2

Operation

WARNING

Pressure Relief Procedure

To reduce the risk of serious bodily injury, including fluid injection, splashing in the eyes or on the skin, or injury from moving parts, always follow this procedure whenever you shut off the pump, when checking or servicing any part of the spray system, when installing, cleaning or changing spray tips, and whenever you stop spraying.

1. Engage the spray gun safety latch.
2. Shut off the air to the pump.
3. Close the bleed-type master air valve (supplied in your system).
4. Disengage the spray gun safety latch.
5. Hold a metal part of the spray gun firmly to the side of a grounded metal pail, and trigger the spray gun to relieve pressure.
6. Engage the spray gun safety latch.
7. Open the drain valve (supplied in your system), having a container ready to catch the drainage.
8. Leave the drain valve open until you are ready to spray again.

If you suspect that the spray tip or hose is completely clogged, or that pressure has not been fully relieved after following the steps above, **very slowly** loosen the tip guard retaining nut or hose end coupling and relieve pressure gradually, then loosen completely. Now clear the tip or hose.

WARNING

For your safety, before operating the equipment be sure all operators have read and fully understand all the warnings, cautions and instructions in this manual and all manuals supplied with each component or accessory.

Flush the Pump Before Using

Pumps are tested with lightweight oil which is left in to protect the pump parts. To prevent contamination of the fluid, flush the pump with a compatible solvent before using it.

WARNING

Before flushing, be sure the entire system and flushing pails are properly grounded. Refer to **Grounding** on page 3. Follow the **Pressure Relief Procedure Warning** at left, and *remove the spray tip from the gun*. Always use the lowest possible fluid pressure, and maintain firm metal-to-metal contact between the gun and the pail during flushing to reduce the risk of fluid injection, static sparking, and splashing in the eyes or on the skin.

Starting and Adjusting the Pump

Be sure the air regulator (32) and bleed-type master air valve (31) are closed. ***Do not install the spray tip yet!***

Place the suction tube (15) in the fluid pail. Open the drain valve (37) and fluid shutoff valve (16) for priming. Open the bleed-type master air valve (31). Hold a metal part of the spray gun (9) firmly to the side of a grounded metal pail and trigger the gun. Slowly open the air regulator (32) until the pump starts. Allow the pump to cycle slowly until all the air is pushed out of the fluid lines. Release the gun trigger and engage the safety latch; the pump will stall against the pressure.

With the pump and lines primed, and with adequate air pressure and volume supplied, the pump will start and stop as the spray gun is triggered and released.

Follow the **Pressure Relief Procedure Warning** at left, then install the spray tip in the gun.

Use the air regulator to control the pump speed and fluid pressure. Always use the lowest pressure necessary to achieve the desired results. Higher pressures waste fluid and cause premature wear of the pump packings and spray tip.

Keep the packing nut/wet-cup filled with Graco Throat Seal Liquid (TSL) to help prolong the packing life. Check the tightness of the packing nut weekly. The packing nut should be tight enough to prevent leakage – no tighter. Always follow the **Pressure Relief Procedure Warning** on page 6 before adjusting the packing nut.

Never allow the pump to run dry of the fluid being pumped. A dry pump will quickly accelerate to a high speed, possibly damaging itself. If your pump accelerates quickly, or is running too fast, stop it immediately and check the fluid supply. If the supply container is empty and air has been pumped into the lines, refill the supply container and prime the pump and lines with fluid, being sure to eliminate all air from the fluid system, or flush the pump as described in **Shutdown and Care**, at right.

Shutdown and Care

Always follow the **Pressure Relief Procedure Warning** on page 6, whenever you shut off the pump. Stop the pump at the bottom of its stroke to keep fluid from drying on the exposed displacement rod and damaging throat packings.

Always flush the pump with a compatible solvent before the fluid can dry on the displacement rod, and at the end of each day. If you are pumping water-based fluid, flush first with water and then with mineral spirits. If you are pumping oil-based fluids, flush with mineral spirits only.

Relieve pressure and leave the mineral spirits in the pump to prevent corrosion.

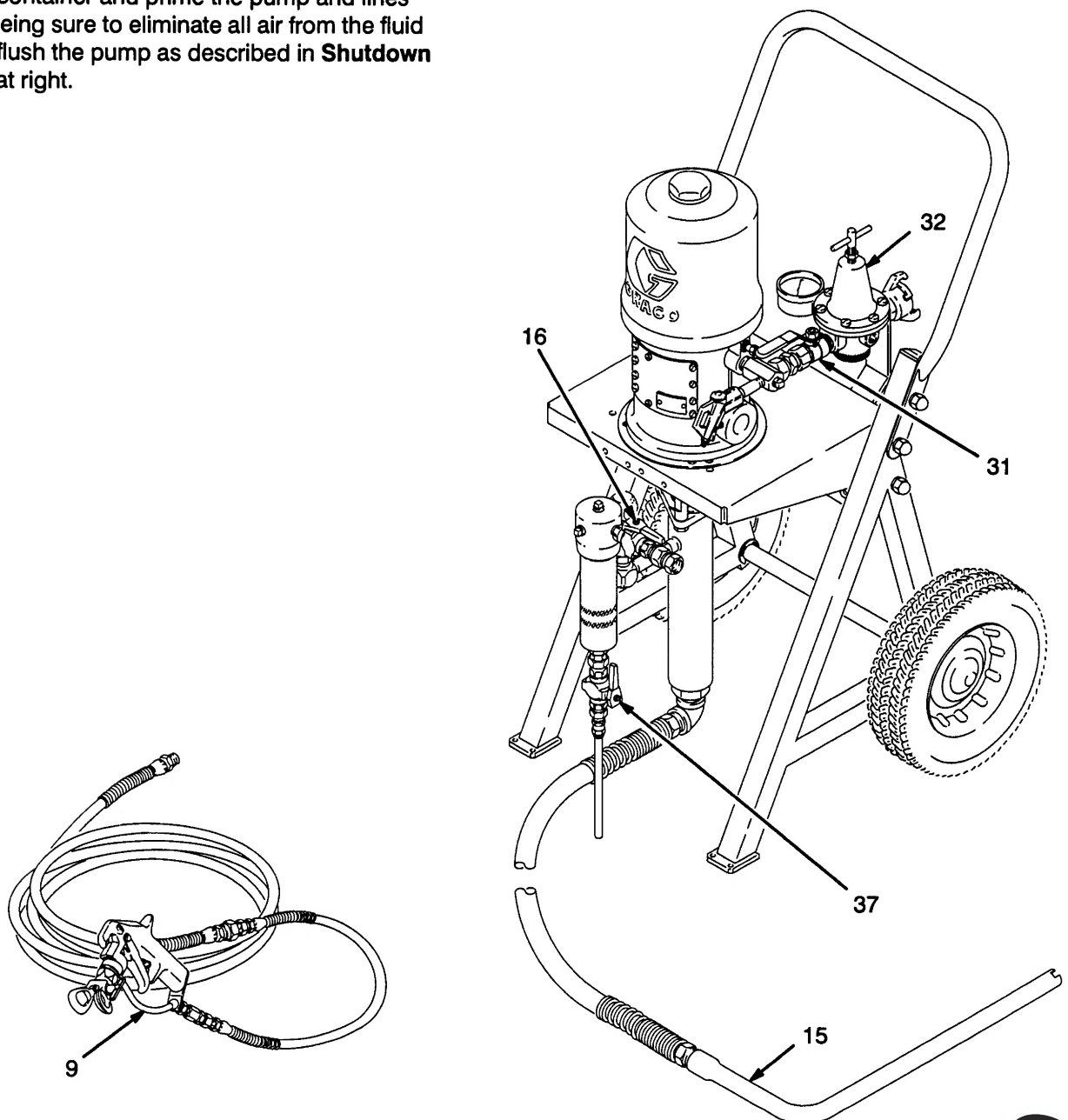
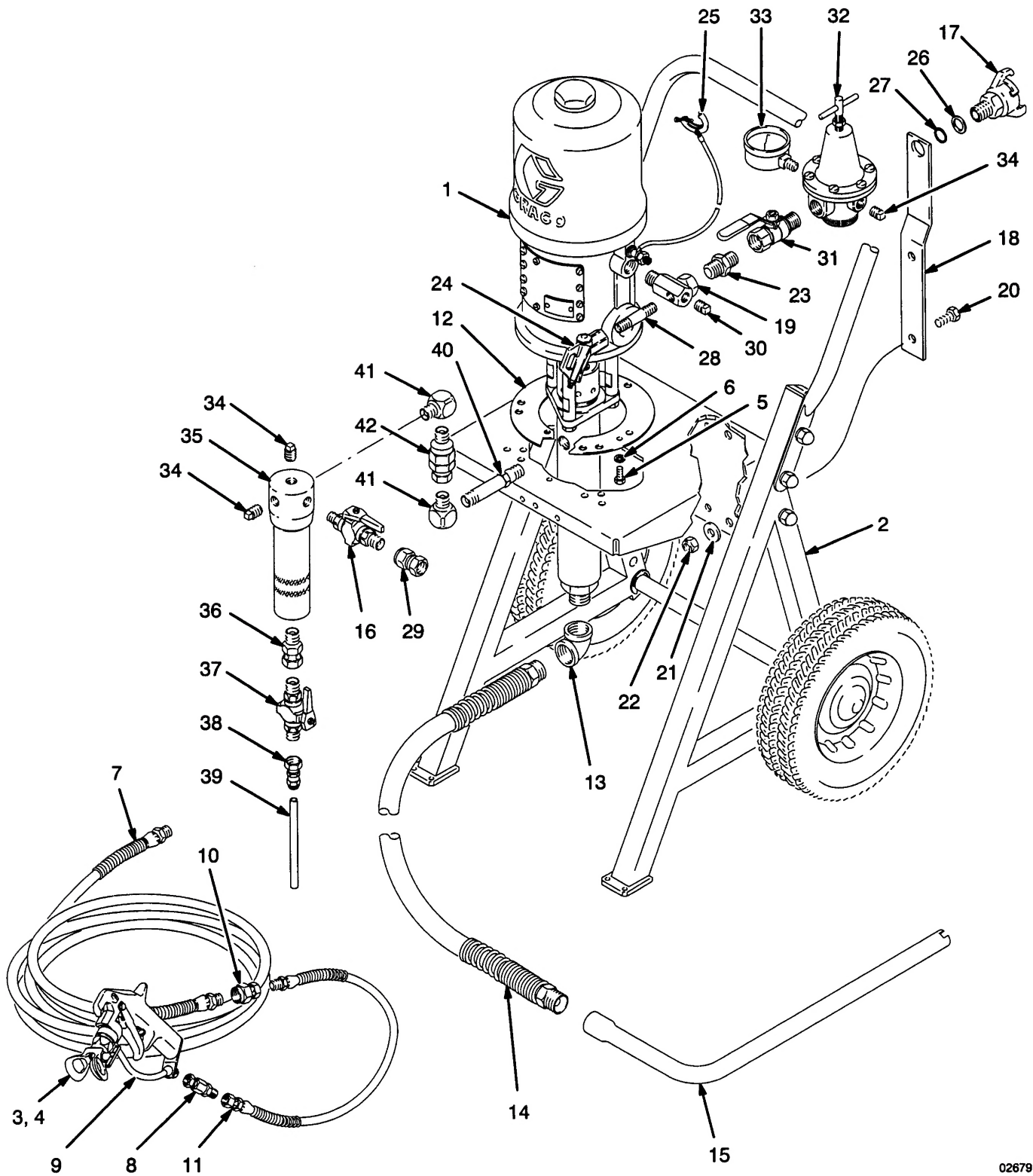


Fig. 3

Parts



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Parts

Part No. 965–272

| Ref. No. | Part No. | Description | Qty. | Ref. No. | Part No. | Description | Qty. |
|----------|----------|---|------|----------|----------|--|------|
| 1 | 223–586 | 30:1 PRESIDENT PUMP See 306–981 for parts | 1 | 20 | 105–187 | SCREW, shoulder; 7/16–14 x 1 in. (25 mm) long | 2 |
| 2 | 224–044 | CART, portable See 308–136 for parts | 1 | 21 | 100–132 | WASHER, flat; 0.438" | 2 |
| 3 | 222–674 | REVERSE-A-CLEAN, heavy duty | 1 | 22 | 595–615 | NUT; nylock | 2 |
| 4 | GHD–617 | HD RAC TIP; .017 in. orifice (not shown; installed in gun) | 1 | 23 | 158–491 | NIPPLE; 1/2 npt | 1 |
| | GHD–621 | HD RAC TIP; .021 in. orifice (not shown; shipped loose) | 1 | 24 | 208–625 | GUN, air blow | 1 |
| 5 | 100–270 | CAPSCREW, hex hd; 1/4–20 x 5/8" long | 2 | 25 | 222–011 | GROUNDING CLAMP AND WIRE | 1 |
| 6 | 100–016 | LOCKWASHER, spring; 1/4" | 2 | 26 | 164–362 | WASHER, flat; 7/8" | 1 |
| 7 | 215–245 | HOSE, fluid; nylon; 3/8 in. (10 mm) ID; 3/8 npt(mbe); 50 ft (15.2 m) long | 1 | 27 | 156–401 | O-RING; buna-N | 1 |
| 8 | 204–940 | SWIVEL See 306–861 for parts | 1 | 28 | 100–124 | NIPPLE; 1/4 npt | 1 |
| 9 | 235–460 | HYDRA–SPRAY GUN See 308–236 for parts | 1 | 29 | 156–173 | UNION, swivel; 3/8 npt(f) x 3/8 npsm(f) | 1 |
| 10 | 159–153 | UNION; 1/4 npt(f) x 3/8 npt(f) | 1 | 30 | 100–509 | PLUG, pipe, sq hd; 1/4 npt | 1 |
| 11 | 214–701 | HOSE, fluid; nylon; 3/16 in. (5 mm) ID; 1/4 npt(m) x 1/4 npsm(f); 3 ft (0.9 m) long | 1 | 31 | 107–142 | VALVE, air, bleed-type; 1/2 npt (m x f) | 1 |
| 12 | 188–595 | MOUNTING BRACKET, pump | 1 | 32 | 206–197 | AIR REGULATOR 1/2 npt(f) inlet and outlet; 0–125 psi (0–9 bar) range | 1 |
| 13 | 100–349 | ELBOW, 90°; 3/4 npt(fbe) | 1 | 33 | 101–180 | GAUGE, air pressure; 0–200 psi (0–14 bar) | 1 |
| 14 | 214–960 | HOSE, suction; 3/4" ID; nylon; coupled 3/4 npt (mbe); 3.5' (1 m) long, w/spring guard | 1 | 34 | 100–509 | PLUG, pipe, sq hd; 1/4 npt | 3 |
| 15 | 165–767 | SUCTION TUBE; 3/8 npt; 18" (457 mm) long | 1 | 35 | 218–029 | FLUID FILTER See 307–273 for parts | 1 |
| 16 | 210–659 | BALL VALVE; 3/8 npt(m) x 1/4 npt(m); See 306–861 for parts | 1 | 36 | 155–665 | UNION, adapter; 3/8 npt(m) x 3/8 npsm(f) swivel | 1 |
| 17 | 511–174 | FITTING, air line | 1 | 37 | 210–658 | BALL VALVE; 3/8 npt(mbe) See 306–861 for parts | 1 |
| 18 | 625–733 | BRACKET, support | 1 | 38 | 205–448 | COUPLING, hose; 3/8 npsm(f) | 1 |
| 19 | 625–763 | MANIFOLD; 1/2 npt (m x f); 90° swivel; 2 holes (1/4 npt) in body | 1 | 39 | 185–973 | HOSE, nylon; 1/4" (6 mm) ID; 28" (711 mm) long | 1 |
| | | | | 40 | 160–790 | NIPPLE; 3/8 npt | 1 |
| | | | | 41 | 155–699 | ELBOW, 90°; 3/8 npt (m x f) | 2 |
| | | | | 42 | 206–831 | CHECK VALVE See 306–861 for parts | 1 |

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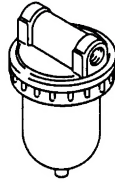
Accessories

Use Only Genuine Graco Parts and Accessories

Air Line Filter

250 psi (17.5 bar) Maximum Working Pressure

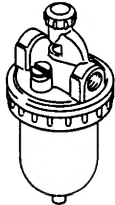
106-149 1/2 npt inlet and outlet



Air Line Lubricator

250 psi (17.5 bar) Maximum Working Pressure

214-848 1/2 npt inlet and outlet



Grounded Buna-N Air Supply Hose

175 psi (12 bar) Maximum Working Pressure

| Part No. | ID | Length | Thd. Size |
|----------|--------------|---------------|------------|
| 205-418 | 1/2" (13 mm) | 6 ft (1.8 m) | 1/2 npt(m) |
| 205-216 | 1/2" (13 mm) | 15 ft (4.5 m) | 1/2 npt(m) |
| 205-273 | 1/2" (13 mm) | 25 ft (7.6 m) | 1/2 npt(m) |
| 208-594 | 1/2" (13 mm) | 50 ft (15 m) | 1/2 npt(m) |

Technical Data

Maximum working pressure 3000 psi (210 bar)

Maximum incoming air pressure 100 psi (7 bar)

Ratio 30:1

Wetted parts Pump: See 306-981

Spray Gun: See 308-236

Fluid Hose: Nylon

Fluid Filter: See 307-273

Suction Hose and Tube: Nylon, Aluminum



The Graco Warranty and Disclaimers

WARRANTY

Graco warrants all equipment manufactured by it and bearing its name to be free from defects in material and workmanship on the date of sale by an authorized Graco distributor to the original purchaser for use. As purchaser's sole remedy for breach of this warranty, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment proven defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

This warranty does not cover, and Graco shall not be liable for, any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility with Graco equipment of structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claim. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor and transportation.

DISCLAIMERS AND LIMITATIONS

The terms of this warranty constitute purchaser's sole and exclusive remedy and are in lieu of any other warranties (express or implied), **including warranty of merchantability or warranty of fitness for a particular purpose**, and of any non-contractual liabilities, including product liabilities, based on negligence or strict liability. Every form of liability for direct, special or consequential damages or loss is expressly excluded and denied. In no case shall Graco's liability exceed the amount of the purchase price. Any action for breach of warranty must be brought within two (2) years of the date of sale.

EQUIPMENT NOT COVERED BY GRACO WARRANTY

Graco makes no warranty, and disclaims all implied **warranties of merchantability and fitness for a particular purpose**, with respect to accessories, equipment, materials, or components sold but not manufactured by Graco. These items sold, but not manufactured by Graco (such as electric motor, switches, hose, etc.) are subject to the warranty, if any, of their manufacturer. Graco will provide purchaser with reasonable assistance in making any claim for breach of these warranties.

Graco Phone Numbers

TO PLACE AN ORDER, contact your Graco distributor, or call this number to identify the distributor closest to you: **1-800-367-4023 Toll Free**

FOR TECHNICAL ASSISTANCE, service repair information or assistance regarding the application of Graco equipment: **1-800-543-0339 Toll Free**

Sales Offices: Atlanta, Chicago, Dallas, Detroit, Los Angeles, Mt. Arlington (N.J.)
Foreign Offices: Canada; England; Korea; Switzerland; France; Germany; Hong Kong; Japan

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